

What is claimed is:

1 1. A communication unit in a cellular communication system, the unit
2 comprising:
3 a transmitter adapted to transmit data over an RF link; and
4 a power control module coupled to the transmitter, the power control module
5 adapted to receive a data packet having a first portion and a second portion and transmit
6 the first portion at a first transmission power and the second portion at a second
7 transmission power.

2. The unit of claim 1, wherein the communication unit transmits the first
portion of the data packet at a first data rate and the second portion of the data packet at a
second data rate.

3. The unit of claim 2, wherein the first transmission power and the second
transmission power are selected so that the first portions and the second portion have
similar transmission ranges.

4. The unit of claim 1, wherein the data packet includes a third portion and
the power adjustment module is adapted to receive the data packet having the third
portion and transmit the third portion at a third transmission power.

5. The unit of claim 4, wherein the communication unit transmits the first
portion of the data packet at a first data rate, the second portion of the data packet at a
second data rate and the third portion of the data packet at a third data rate.

6. The unit of claim 5, wherein the data packet conforms to the IEEE 802.11
standard protocol and the first portion of the data packet is a PLCP preamble, the second

portion of the data packet is a PLCP header and the third portion of the data packet is a data portion.

7. The unit of claim 1, wherein the communication unit is an access point system.

8. The unit of claim 1, wherein the communication unit is a mobile communication unit.

9. The unit of claim 1, wherein the power control module includes a transmission power amplifier adapted to receive the power data packet and dynamically control the transmission power of the first portion and the second portions.

10. The unit of claim 9, wherein the power control module includes a D/A converter adapted to receive power data information in digital format and convert the power data information to an analog control signal, the analog signal adapted to control the transmission power of the transmission power amplifier.

11. The unit of claim 10, further including a processor coupled to the D/A converter, the processor adapted to transmit the power data information to the D/A converter.

12. The unit of claim 11, further including a receiver coupled to the processor, the receiver being adapted to receive a transmission from other communication units.

13. The unit of claim 12, wherein the receiver is further adapted to provide transmission power information to the processor from a transmission communication unit transmitting information to the receiver, the processor evaluating a range from the

transmission power information and downloading power data information to the power control circuit based on a desired transmission range of the data packet.

14. The unit of claim 10, wherein the power control module includes a power data register section coupled to the D/A converter, the power data register module being adapted to store the power data information and provide the power data information to the D/A converter.

15. The unit of claim 14, further including a processor coupled to the power data register section, the processor adapted to transmit the power data information to the power data register section.

16. The unit of claim 15, further including a receiver coupled to the processor, the receiver being adapted to receive a transmission from other communication units.

17. The unit of claim 16, wherein the receiver is further adapted to provide transmission power information to the processor from a transmission communication unit transmitting information to the receiver, the processor evaluating a range from the transmission power information and downloading power data information to the power control circuit based on a desired transmission range of the data packet.

18. The unit of claim 1, wherein the communication unit is coupled to a network and the network provides the power control circuit with information relating to the power transmission level of the first portion and the second portion.

19. A method of transmitting a data packet in a cellular communication system, comprising the steps of:
transmitting a first portion of the data packet at a first transmission power level;
and

5 transmitting a second portion of the data packet at a second transmission power
6 level.

20. The method of claim 19, further including the step of transmitting a third portions of the data packet at a third transmission power level.

21. The method of claim 19, wherein the first portion of the data packet is transmitted at a first data rate and the second portion of the data packet is transmitted at a second data rate.

22. The method of claim 19, wherein the first power level and the second power level are adjusted so that the first portion and the second portion have essentially the same transmission range.

23. The method of claim 19, wherein a step of providing a communication unit precedes the step of transmitting a first portion of the data packet at a first transmission power level, the communication unit including a transmitter, a power control module coupled to the transmitter, a processor coupled to the power control module and a receiver coupled to the processor.

24. The method of claim 23, wherein the processor provides the power control module with the first transmission power and the second transmission power after the step of providing a communication unit and prior to the step of transmitting a first portion of the data packet at a first transmission power level.

25. The method of claim 24, wherein the processor evaluates the first transmission power and the second transmission power based on a desired transmission range for the first portion and the second portion of the data packet.

26. The method of claim 25, wherein the processor evaluates the first transmission power and the second transmission power based on a desired transmission range for the first portion and the second portion of the data packet based on a transmission power level of a transmission received from another mobile communication unit.

27. The method of claim 25, wherein the communication unit is coupled to a network and the processor evaluates the first transmission power and the second transmission power based on a desired transmission range for the first portion and the second portion of the data packet, the network providing the processor information relating to the desired transmission range.

28. The method of claim 19, wherein the power level of the first portion and the second portion is dynamically adjusted during the transmission of the data packet.

29. An access point system in a cellular communication system utilizing an IEEE 802.11 standard protocol, comprising:

- a transmitter adapted to transmit data over an RF link;
- a power control module coupled to the transmitter, the power control module adapted to receive a data packet having a PLCP preamble and PLCP header portion and a data portion and dynamically adjust the transmission power of the packet during transmission of the packet, such that the PLCP preamble portion begins transmitting at a first transmission power level and the data portion begins transmitting at a second transmission power level;
- a processor coupled to the power adjustment module, the processor being adapted to provide power adjustment information to the power control module; and
- a receiver coupled to the processor, the receiver adapted to receive data over an RF link wherein the access point system is coupled to a network.

30. The system of claim 29, wherein the power control module includes a transmission power amplifier adapted to receive the data packet and control the transmission power of the PLCP preamble portion and the data portion, the transmission power amplifier coupled to a D/A converter, the D/A converter being adapted to receive power data information in digital format and convert the power data information to an analog control signal, the analog control signal adapted to control the transmission power of the transmission power amplifier.

31. The system of claim 30, wherein the power control module include a power data register module coupled to the D/A converter, the power data register module being adapted to store the power data information and provide the power data information to the D/A converter wherein the processor is coupled to the D/A converter, the processor adapted to transmit the power data information to the D/A converter.

32. A cellular communication system, comprising:
means for transmitting a data packet having a first portion and a second portion;
and
means for dynamically adjusting the transmission power level of the first portion with respect to the second portion of the data packet coupled to the means for transmitting a data packet having a first portion and a second portion.

33. The system of claim 32, further including means for determining the transmission power levels of the first and the second portion based on a desired transmission range for both the first and the second portion.

34. The system of claim 32, wherein the means for dynamically adjusting the transmission power level of the first portion with respect to the second portion of the data packet further provides for adjusting the power transmission level of a third portion of the data packet with respect to the first and second portions.

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35. A signal transmitted over a wireless communication system, the signal comprising:
a data packet having a first portion transmitted at a first power level and a second portion transmitted at a second power level.